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ABSTRACT

This manual provides practical advice for voluntary partnerships that, since 1994, are part of the effort to build a voluntary national system of skill standards, assessment, and certification. Intended to be used with guidance from the National Skill Standards Board, it is designed for the voluntary partnerships that have completed the standards development phase and are ready to begin the phases of assessment and certification (A&C). An introduction outlines the work ahead; examines the key activities involved in each of the three major components of the work (learn and prepare; develop the system; and launch the system); discusses working with vendors; and lists keys to success. The rest of the manual describes the step-by-step approach to developing the first component. These are the four steps: (1) organize--building a strong organizational structure to tackle issues involved with A&C; (2) investigate--learning about A&C, the customer, the market, civil rights and access concerns, and other key issues; (3) envision--creating a vision of how the A&C system should work; and (4) plan and retain--retaining expert assistance to plan, develop, administer, and maintain the system. (Contains 88 references.) (YLB)

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NSSB National Skill Standards Board

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Getting Started on Assessment

Developing a Voluntary System of Assessment and Certification Based on Skill Standards

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About This Manual...

Getting Started on Assessment provides practical advice for building a system of assessment and certification based on skill standards. This manual was developed for the Voluntary Partnerships who have completed the Standards Development Phase and are ready to begin the Phases of Assessment and Certification. It should be used with guidance from the National Skill Standards Board (NSSB).

Who We Are...

The National Skill Standards Board (NSSB) is a coalition of leaders from business, labor, employee, education, community, and civil rights organizations created in 1994 to build a voluntary national system of skill standards, assessment, and certification. The goal of this effort is to ensure American workers have the skills they need to succeed in today's workplace, enhancing U.S. global competitiveness and raising the living standard of all Americans. NSSB-endorsed skill standards, which form the foundation of this new system, are being identified by Voluntary Partnerships, industry coalitions working in full partnership with labor, civil rights, and community-based organizations.

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National Skill Standards Board
"Setting a Standard for Workforce Excellence"

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Introduction

Now that your skill standards have been developed and approved, your Voluntary Partnership will begin developing a system of assessment and certification based on skill standards. This is an exciting time—your first chance to put skill standards into practice on a large scale. This manual is meant to help you get started.

Planning for assessment and certification requires much of the same solid research, innovative thinking, and practicality that goes into developing a top-quality product and bringing it to market.

Who are your customers? What are their needs? How can you create a product or service that will succeed in today's marketplace? As you begin to build an assessment and certification system, answering these kinds of questions will be critical.

Before Reading this Manual...
Please read *Credentials for Success*, which outlines the NSSB's vision of assessment and certification. It includes valuable information about assessment and certification not covered in this manual.

The Work Ahead

The best way to begin building your assessment and certification system is with a realistic sense of the work ahead. Each Voluntary Partnership will be responsible for a range of activities, including:

- Developing the assessments;
- Setting up assessment delivery channels;
- Making key policy decisions regarding the certification program (e.g., how much to charge, how to ensure accessibility);
- Complying with the NSSB's criteria for assessment and certification as well as legal, technical and documentation requirements;

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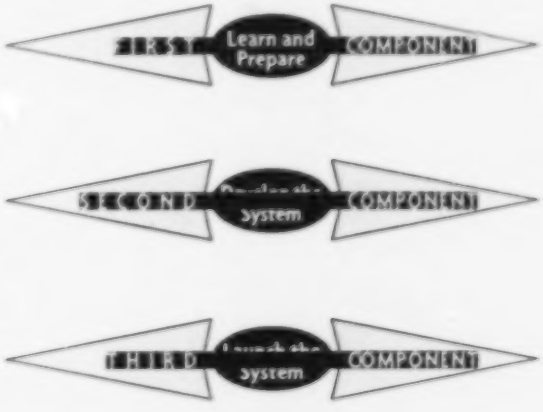
- Establishing a national database for storing and retrieving information;
- Making plans for administration and ongoing maintenance of the system; *and*
- Marketing the system.

Even a quick look through this partial list hints at the magnitude of the work ahead. Your Voluntary Partnership will not be tackling these challenges alone. The NSSB and its Technical Assistance Team will provide advice and assistance to help your Voluntary Partnership. The NSSB also recommends that Voluntary Partnerships enlist the help of an outside vendor or vendors to design and implement the system. To enhance your internal capabilities, you may also wish to hire an assessment expert to serve on staff.

Three Major Components of the Work

Because so much work is involved in building a certification system, which includes standards and assessment, the NSSB will be providing technical assistance in a phased approach:



In the following section, we will examine the key activities involved in each major component of development.

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A Look at Each Component

The First Component involves laying the foundation for the development of your assessment and certification system. This includes building your own knowledge of assessment and certification, beginning to learn about your customers, and obtaining the support of an outside vendor or vendors. Here's a look at the major activities involved:

- **Learn the basics about assessment and certification.** Now is the time to build your own knowledge of assessment and certification and the related NSSB criteria. This will help you manage the work ahead. The NSSB will assist you through a series of workshops, publications, etc.
- **Build internal technical capabilities.** Once you understand the basics, begin building your assessment team. The NSSB recommends that you start by hiring someone who can help you manage the process (e.g., prepare the request for proposals (RFP), select and oversee vendors).
- **Conduct market research.** Take time to learn more about the market for assessment and certification in your industry sector. A strong understanding of your customers and the market will help you make critical decisions about how to deliver your assessments, how much to charge, and so on. You may choose to do this market research on your own or with the help of outside experts. Be sure to build on earlier market research conducted when your Voluntary Partnership was first established.
- **Start outreach efforts.** At this early stage, it is important to start forming relationships with specialty skill standards developers, colleges, companies, unions, training organizations, state governments, civil rights and community-based organizations and others that can help promote and support your system. The NSSB is working to build relationships with these groups on a national, cross-sector level and can offer you support and advice.
- **Develop a marketing plan.** It is going to take time, effort, and a fairly sophisticated marketing effort to persuade employers and workers to use this new system. Start thinking about this issue as early as possible. The NSSB may be able to provide support in this area—a coordinated marketing strategy among the Voluntary Partnerships will double or triple the impact.

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- **Further develop your business plan.** Consider how your Voluntary Partnership will finance the system, deliver products and services, and the like. Your Voluntary Partnership has already developed an overall business plan, which may have even addressed issues specific to offering assessment and certification services. Now is the time to refine that plan. Talk to NSSB staff and other Voluntary Partnerships about ways to leverage resources. Joining forces may help you create high-quality products and services and get them to market faster.

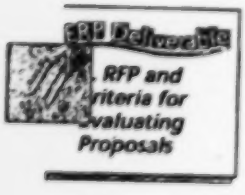
- **Identify individuals with expertise in employment law, access, diversity, and civil rights issues.** It will be important to find individuals with knowledge of alternative methods of assessment designed to minimize adverse impact while maintaining the validity of the assessments. Incorporating issues of access and civil rights is vitally important and should be factored in as early as possible. The NSSB will provide technical support in this area.

Endorsement Review

Next to certain activities within each phase, the following icon will appear.

This icon signals that the output of this activity must be submitted to the NSSB Endorsement Review Panel (ERP):

The ERP will review each of these deliverables to ensure that it meets key NSSB criteria. For more information about the NSSB criteria and endorsement process, please see: *NSSB Endorsement Process: A User's Guide for Voluntary Partnerships.*



- **Prepare an *RFP* and *Criteria for Evaluating Proposals*.** With your internal assessment team created, it's time to issue an RFP to enlist the help of an outside vendor or vendors. When you develop your RFP, you should also develop criteria for evaluating proposals. You must submit your RFP to the Endorsement Review Panel (ERP) *before* issuing it.

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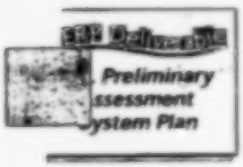
The Second Component involves working with your vendor to build the system. This includes developing assessment tools, setting up delivery channels, conducting pilots, etc. At each stage, the NSSB will provide technical assistance to help you and your vendor develop the best possible plan. Let's take a look at some of the important activities involved in this work:



- **Develop a *Preliminary Assessment System Plan.*** This is the first step in developing assessments and involves the important and challenging task of determining which aspects of the skill standards will be assessed and the best methods for assessing them. The plan should provide information on the estimated importance assigned to each aspect of the standards, the proportion of the assessments that will be dedicated to each component of the skill standards, and an estimate of scoring and examination time. It should also provide a vision of how the various aspects of the plan will lead to certification, how the system will be delivered, what system components are needed, etc. Your *Preliminary Assessment System Plan* must be submitted to the ERP.

- **Create a *Detailed System Development Plan.*** Your next step is to develop a detailed plan for developing your assessment system. The first aspect of the plan needs to deal with the assessment tool development. It should literally be a blueprint for creating the assessment tools. It should describe exactly how each aspect of the skill standards will be measured, the types of questions candidates will be asked, the types of tasks they will be requested to perform, and so on. It should also include a linkage study, showing how what's being measured and the way in which it is being measured accurately reflects the content of the skill standards. The second aspect of the plan needs to deal with the development of the system components. It should describe precisely how your Voluntary Partnership intends to deliver the assessment tools (e.g., delivery channels, providing candidate information and feedback); create the national database for storing and retrieving information; develop a reporting mechanism for candidates and participating employer organizations; ensure secure, "hacker-proof" delivery, storage, and reporting systems; create a method for ascertaining how different groups are performing (e.g., mean scores and stan-

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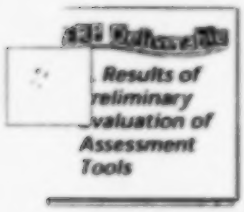
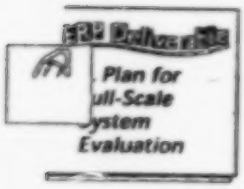
dard deviations across different concentrations, performance of various protected groups, basic psychometric indices)[1]; develop training programs for people delivering and servicing the system; provide pre-assessment information and services, etc. In all these efforts, you should incorporate the NSSB goal of building a voluntary national system of assessment and certification that increases opportunities for minorities and women. Your *Detailed System Development Plan* must be submitted to the ERP.



- **Develop the assessment tools and conduct a preliminary evaluation of the assessments.** In this step, your vendor will develop the assessment tools, including scoring keys and rating scales[2] for each tool. This stage also includes the development of algorithms for combining assessments from the different tools into an overall score. Another important part of this step is a preliminary evaluation of the assessment tools. You and your vendor will conduct pilots to gather preliminary data about reactions to the tools and psychometric characteristics[3] of the tools. Results of this preliminary evaluation must be submitted to the ERP.

- **Develop system components.** This step includes establishing delivery channels (e.g., setting up sites to assess candidates or working with existing ones); creating a national database for storing assessment results; developing a mechanism for reporting results to candidates and issuing certificates; addressing quality control and security issues regarding assessment administration, scoring keys and algorithms, and database access and integrity; developing training modules for assessment tool administrators, system administrators, assessors, and other staff; developing an ongoing maintenance plan for continuously improving the system and updating it as skill standards change.



- **Develop a plan for full-scale evaluation of the entire system.** The plan should describe in detail how you intend to evaluate all parts of the assessment system. This is in contrast to the preliminary evaluation, which evaluated the assessment tools only. The plan for the full-scale evaluation

[1] This important aspect of developing your assessment system should be considered as part of the initial design of the system. If it is not, it could be costly and extremely difficult to ascertain this information.

[2] Scoring keys provide information about the right and wrong responses to more straightforward forms of assessments (e.g., a multiple choice test). Rating scales often include checklists for raters to use in evaluating a candidate's performance and are often used for assessments involving work simulations or an evaluation of a work sample.

[3] Psychometric characteristics refers, among other things, to the reliability of the assessments (the degree to which the assessments accurately capture the content of the skill standards, measure that content, etc.).

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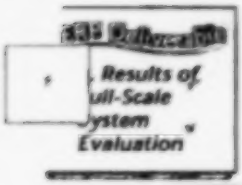
should include information about how you plan to evaluate candidate reactions; participating employer organization reactions; scoring strategies; impact of assessments on protected groups; psychometric characteristics of the assessment tools; readability analyses; linkage of assessment tools with work standards; effectiveness of security measures and training programs for assessment administrators; accessibility of the system to users, effectiveness of national database, etc. **Please Note:** This evaluation needs to be conducted before the system is launched.



■ **Conduct a full-scale evaluation of the assessment system and make changes as required.** Now it's time to conduct a full-scale evaluation of the assessment system, including the assessment tools and system components. This evaluation should measure the effectiveness of all aspects of the system (e.g., psychometric characteristics of assessment tools, comparison of mean scores for groups of interest for all concentrations, scoring, delivery channels, storage and communication of results, security of the delivery system and databases). Based on findings, your assessment system will likely require modification before it is launched.

■ **Prepare a *Technical Report* documenting the content validity and effectiveness of the assessment system.** This report should describe in detail the activities undertaken to develop and evaluate the assessment system. This report should be sufficiently detailed to allow an expert to evaluate the quality of the system. It should conform to the *Uniform Guidelines*, the *Principles* and the *Standards*. The technical report should include the final assessment tools and components.

■ **Develop a rollout plan and fine-tune the marketing and business plan.** How, when, and where will you launch the system? Will you start with six assessment centers in the first year and grow to a dozen in the next? Where is the greatest need for assessment in your industry sector? How will that affect your rollout plan? To whom will you market first? How will you ensure the rollout plan helps you achieve the important goal of increasing opportunities for minorities and women? How will you measure success? All these issues will need to be addressed. The NSSB and other Voluntary Partnerships will be a helpful source of information in developing your strategy.

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The Third Component involves the initiation of services. At this time, your Voluntary Partnership should be launching its full-scale marketing plan; activating its ongoing maintenance plan, including the updating of standards and assessments and the ongoing evaluation of access and compliance issues; and working to link the system to specialty assessment and certification systems. Further information about ERP Deliverables will be available closer to the launch.

The Focus of This Manual

Getting Started on Assessment offers advice to help your Voluntary Partnership begin developing the First Component. Future publications will help you develop the Second Component and the Third Component.

The NSSB has developed a step-by-step approach to help you get started on developing the First Component:

- **Step 1: Organize.** Building a strong organizational structure to tackle the issues involved with assessment and certification.
- **Step 2: Investigate.** Learning about assessment and certification, your customer, the market, civil rights and access concerns, and other key issues.
- **Step 3: Envision.** Creating a vision of how you want your assessment and certification system to work.
- **Step 4: Plan and Retain.** Retaining expert assistance to plan, develop, administer, and maintain the system.

This step-by-step approach is described in the rest of this guidebook. Your Voluntary Partnership may wish to use this approach as is or modify it to meet your needs.

Working with Vendors

Because of the highly technical nature of assessment, the NSSB recommends that you work with an outside vendor or group of vendors to develop and implement your assessment and certification system. Although it's tempting to hire a vendor right away, we encourage your Voluntary Partnership to take the time to learn about assessment and certification, your customer, and what you want to achieve. A clear vision and a complete understanding of assessment will help you select the best contractors and help you manage them.

In light of this, we recommend that you complete the first four steps of the First Component before obtaining the assistance of an outside vendor, the subject of Step Four (Plan and Retain).

The NSSB will be available to provide advice and assistance as you work through the first three steps of this process. When your Voluntary Partnership is ready, the NSSB would like to begin work on the steps described in this manual with an initial training and planning session with your Voluntary Partnership's managers (directors), assessment staff, and assessment committee.

Benefits for Everyone

This guidebook is geared for all Voluntary Partnerships, including newly formed partnerships and those already established. Your Voluntary Partnership may have started on some of the steps described in the early sections of this guidebook. We encourage you to review these steps, looking for new ideas or lines of questioning that may help you refine your plans. Once you have finished your review, you may wish to start with some of the later steps in the guidebook.

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Keys to Success

As you begin this work, remember to:

Think big. An assessment and certification system is much more than just the assessment methods used. It must address tough issues, from how to pay for the system, to how to link it to training and development, to how to ensure it complies with civil rights laws.

Be creative. This is a new and challenging task that will require innovative thinking. Although there are many lessons to be learned from existing assessment efforts, you will be addressing many new issues based on the unique characteristics of national skill standards.

Be realistic. Building a national system of assessment and certification means being realistic about what it can and cannot do:

- *It won't sell itself.* We cannot take the "if you build it, they will come" approach. Workers, employers, students, education and training providers, and others need to be sold on the value of assessment and certification. This not only requires a strong marketing plan but also a commitment to developing a system that meets the needs of all those who will use the system, from individuals to employers to educators.
- *It won't create itself.* Building an assessment and certification system is a major undertaking that requires significant resources and work on the part of each Voluntary Partnership and the NSSB. Getting started as early as possible is critical to the development, planning, and implementation of the system.
- *It won't work if it's not accessible.* Assessment and certification must be affordable; geographically accessible; and practical in terms of the time, cost, and effort required of the individual.
- *It won't work if employers, employees, students, and educators don't recognize, value, and use it.* Assessment and certification will have huge implications for the careers of individuals, the success of companies, and the reputations of education and training providers. Spend time at the outset to build a system of the highest quality and of the most use to your stakeholders, and you can build the trust and respect that will be so critical for success.

Organize

Building a strong organizational structure to tackle the issues involved with assessment and certification

Developing assessment tools is really the last step in a comprehensive process that begins with the formation of your Voluntary Partnership and the development of skill standards. Spend time at the start to build a strong organizational structure to address assessment and certification issues. To do this, the NSSB recommends that you:

Establish a Separate Assessment and Certification Committee

Preparing for assessment and certification begins when you set up the operational and committee structure that will guide your Voluntary Partnership. More than likely, you will establish separate committees to oversee different issues, such as standards development, marketing and communication, and others. Given the scope and complexity of assessment, we recommend that you consider establishing a separate assessment and certification committee.[4]

[4] Your Voluntary Partnership may already have a committee structure set up. If you have a separate assessment and certification committee, begin using the ideas in this chapter to ensure the committee is on track. If you don't have a separate committee, now is the time to establish one and address these critical issues.

The work of the assessment and certification committee should not be limited to overseeing the development of the assessment tools. The committee should also:

- Make recommendations to your Voluntary Partnership's Decision Council on ways to ensure equal access to the system, portability of certificates across the industry sector, and other pertinent issues;
- Determine how best to serve customers;
- Help select and oversee the assessment and certification vendor;
- Build strategic relationships (e.g., evaluate the benefits of potential partnerships and build relationships with education and training providers, specialty standards developers, and others who can help promote your system);
- Address practical issues such as the marketing, cost, delivery, and maintenance of your system; and
- Contribute to your Voluntary Partnership's overall business plan.

It's important to set up a way for members of the Standards Committee and the Assessment Committee to collaborate. Because standards must be developed to meet the technical and legal requirements of assessment and certification, up-front coordination is critical. For example, the research methods may need to be modified to meet the needs of assessment. Early coordination will save the time, money, and effort associated with trying to correct problems in the standards after the fact. To ensure cooperation:

- A small set of individuals could serve on both committees.
- The committees could designate delegates to serve as liaisons between the two committees.
- At a minimum, leaders or representatives of all the operating committees should be part of your overarching Decision Council to ensure consistency and continuity of the system as a whole.

Tips for Success

1. Ensure that key stakeholders from your Voluntary Partnership are represented on your assessment and certification committee.
2. Look for members who have:

   ☑ *Assessment and certification experience* (e.g., human resources personnel, educators, representatives of unions that have certification programs, individuals with employment assessment background in your industry);

   ☑ *Employment law experience* (e.g., attorneys with specialized experience in civil rights and labor law); and

   ☑ *A strong background in business* (e.g., members who may not know a lot about assessment and certification but who know how to develop and market products and services, a key part of building a successful assessment and certification system).

Questions for You

- Who do you think needs to serve on your assessment committee?
- Which members of your Voluntary Partnership have experience in assessment and certification? In developing and marketing products and services?
- Do you need to make other changes in your organizational structure to accommodate the needs of assessment and certification?
- What do you think is the best way to coordinate activities between those working on developing standards and those working on assessment and certification?
- Have you included individuals who represent the interest of protected populations?

Begin Working with the NSSB on Assessment and Certification

You already have a working relationship with the NSSB and its Technical Assistance Team. Now is a good time to discuss how you can build on that relationship to begin working on assessment and certification. Keep in mind that the NSSB is available to provide ongoing advice and assistance to help you carry out the steps in this manual.

Build Relationships with Outside Groups

Start meeting with organizations that may want to align with your certification program. Consider establishing "user groups," made up of specialty standards developers; employers; workers; community colleges; state education, training and employment agencies; unions; and civil rights and community-based groups. Their input at key moments in the design and planning of your program could help you build good will, produce a better product, and open up new markets and partnerships.

Hire an On-Staff Assessment Expert

The NSSB strongly recommends that you hire someone with assessment expertise to serve on your staff, either full time or in a consulting capacity. This individual (or group of individuals) can help:

- Coordinate work between the Standards and Assessment Committees;
- Oversee research to help your Voluntary Partnership learn about assessment and certification in your industry sector;
- Help prepare a request for proposals (RFP), evaluate bids from vendors, and manage the contract; and
- Serve as a liaison to NSSB staff, the Technical Assistance Team, and to the NSSB committees working on assessment and certification issues.

Tips for Success

1. When hiring assessment experts, look for such qualifications as:

   - A level of psychometric expertise that would typically be evidenced by a Ph.D. in such fields as psychometrics, quantitative psychology, industrial psychology, applied statistics, educational measurement, or educational psychology;
   - Expertise in work performance measurement;
   - Expertise in job/work analysis;
   - Experience developing and administering large-scale assessment programs;
   - Expert knowledge of employment and civil rights laws and related court decisions (including Civil Rights Acts, American with Disabilities Act (ADA), and the Age Discrimination in Employment Act (ADEA));
   - Expertise in employment assessment validation principles;
   - Experience costing the development and administration of assessment tools; and
   - Experience with certification or licensure programs.

2. If your Voluntary Partnership engages a consultant to fill this role, ensure that the consultant will be available to provide ongoing, in-depth assistance.

Align Standards and Assessment

As mentioned earlier, the standards must be developed to meet the technical and legal requirements of assessment. This process will require the help of someone with considerable assessment expertise. Individuals who are responsible for ensuring that the standards are aligned with assessment may find it useful to observe the data collection process to learn more about the skill standards; participate in the debriefing sessions after data collection; or regularly review standards as they are being developed.

Tips for Success

1. At each stage of the standards development process, an assessment expert should:

   - Review the data collection materials (e.g., demographic forms, population sampling plans) to ensure that the number and makeup of those participating in the research meet the technical and legal needs of the assessment system.

   - Provide feedback to the Standards Committee on any anticipated problems with the content of the standards. This is especially important when the skill standards are in draft form so that issues can be addressed before the standards are finalized.

2. Consider gathering information through the standards development process that will help in designing assessments. You may want to ask participants in the standards development process such questions as: Where did you receive training? Is there a need for additional training in your industry? What kinds of continuing education opportunities are available? What kinds of certification do you have now? What problems did you experience in developing your skills for this industry? What problems did you encounter in getting certified?

Appraise Your Capacity

Developing and maintaining an assessment and certification system is a highly technical science, a creative art, and a substantial business venture. Before you embark on investigating your assessment options, it is wise to evaluate your Voluntary Partnership's capacity to plan and implement an assessment and certification system.

Tips for Success

The following self-appraisal will help members of your Voluntary Partnership identify what they know about assessment and certification and what they still need to learn. (Consider building a "capacity and knowledge inventory" record as members of your Voluntary Partnership answer these questions. You can build on it as you start to investigate—the next step in this process.)

- ☑ How much do you know about the successful assessment and certification approaches in your industry sector?
- ☑ Are you familiar with the legal requirements surrounding assessment and how those requirements may differ depending on the context and use of assessment?
- ☑ Are you familiar with the types of assessment vendors currently working in the marketplace?
- ☑ Do you have ready access to technical experts in assessment development? Do they have experience in working in a variety of stakeholder contexts (e.g., companies, educational organizations, public and private settings)?
- ☑ Are you familiar with the potential customers of your standards-based assessments and certification system? Do you have information about how and when they are likely to want access to assessment? Do you know what your customers will pay for assessment?

- ☑ Do you have the expertise needed to craft a communications, marketing, and sales plan that will ensure the success of your assessment system?
- ☑ Do you have the knowledge and skills needed to create and maintain a national database for storing results? Who in your voluntary partnership has created and maintained such databases?
- ☑ Do you know how to identify and address the barriers to access that might occur?

Don't worry if your answers reflect gaps in your knowledge. With the help of the NSSB, your own team of experts, and the investigation recommended in the next section, you will quickly begin to build your knowledge.

Investigate

Learning about assessment and certification, your customers, the market, civil rights and access concerns, and other key issues

Now it's time to investigate your options thoroughly, learn more about your customers, and think creatively about your industry's assessment needs and market opportunities. In short, it's time to do some "market research."

Your findings at this stage of the process will help you begin to make concrete plans and build a vision of how you want your assessment and certification system to work. To do this, the NSSB recommends that you:

Learn About Your Customers and Their Needs

Learning about your customers and their needs is critical to developing the right mix of products and services. In fact, it may be the single most important aspect of your investigation.

Start by defining exactly who your customers will be. Who will be using the assessments and certifications you develop? Who will be affected by them? These individuals are your customers and they include:

- *Assessment and certification candidates*—students, new entrants to your industry sector, seasoned workers, and others, who will be assessed and certified (note how many different types of assessment candidates are in this list—each with their own needs);
- *Employers*—the companies and organizations that will make decisions based on your assessment system;

- *Education and training organizations*—institutions that might use assessment and certification results to determine what training or education an individual needs;
- *Unions*—organized labor organizations that might create programs in support of your assessment and certification systems; and
- *Specialty standards groups*—developers of specialty standards that might link their assessment and certification systems to your own. For example, it may be that individuals who receive Core Plus Certificates would need to take only a modified assessment to achieve a particular specialty certificate or vice versa.

Once you know who your customers are, create "customer profiles" for each of these groups.

For *assessment and certification candidates*, you might want to find out:

- Demographic information: The size and location of your assessment candidate population; average age, experience, employment status, earnings, education and training, degree of linguistic diversity, and degree of access to the Internet.
- The ways in which applicants, employees, and students would use assessments and certifications. Would they use assessment and certification results to make training and education choices? To make career choices? To get jobs? How do their needs differ?
- The products and processes candidates use now to assess their performance and communicate their qualifications to employers and others. What do they like and dislike about what they use now? What improvements would they like to see?
- Reasonable costs candidates would be willing to pay for assessment and certification.[5]

[5] To some extent, the ability to get a good answer to this question depends on the nature of the assessment and certification products and services you create. The more useful those products and services are to your potential customers, the more willing they may be to spend time and money to obtain them. To answer this and other similar questions, you may wish to describe different assessment and certification options and their benefits and then ask potential candidates how much time and money they would be willing to spend for each option.

- Reasonable amount of time candidates would be willing to spend on assessment and certification. What's a reasonable distance for them to travel to be assessed and certified? Where are the best places to offer certification?

For *employers*, you might want to ask:

- What products and processes do employers use now to evaluate potential new hires? Are they satisfied with these products?
- Do they currently assess employee skills in order to target training and development and how much demand would there be for tools that would help them do that?
- What would they like out of a national assessment and certification system?
- Are there differences in the assessment and certification needs of large employers versus smaller ones? If so, what are they?
- Under what conditions would employers pay or help to pay for employees to be assessed and certified?
- What are the special needs of each subindustry within the sector?
- What is the demand for assessment and certification for each concentration? Is there a particularly pressing need for one concentration compared to another? (This will help you prioritize assessment development.)

Tips for Success

1. Communicate with members of your Voluntary Partnership to learn more about the likely customers of your assessment and certification system.
2. Consider convening user groups to find out more about your customers and their needs.
3. Create customer profiles for all your customers. For example, the

needs and uses of the certification system are likely to be very different for job applicants as compared to incumbent workers.

Questions for You

- Who do you think are the main customers of your assessment and certification system?
- What would you like to know about them?
- What's the best way for you to gather this information?

Investigate Current Products and Services

Now it's time to investigate other assessment and certification systems. Work with the NSSB, other Voluntary Partnerships, and your own in-house assessment experts to identify and catalog best-practice assessment and certification programs that are successful in and out of your industry sector. Find out how these assessments work:

- Who designed them?
- Who pays for them?*
- How do they address important civil rights concerns? How are access and equity needs (e.g., language, cost, geography) addressed?*
- What kinds of legal challenges have they withstood?
- How are they marketed?*
- How are they delivered?*
- How are they operated and maintained?
- How are certifications earned? What types of assessment tools do they use?

***Investigate**
Items on this page and the next that have an asterisk next to them are explained in greater detail in the section entitled "Investigate" at the end of this chapter.

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- What is their appeals process?
- Are credits awarded for those who pass certain components of the assessment? If so, what are the advantages and disadvantages of this approach?
- Are the credentials and earned certifications portable in any way? If so, how?
- Why are existing selection and certification systems rejecting candidates? (This will give you insight into why these training, education, selection, and certification processes may or may not be working.)
- How do they address practical issues, such as providing information about assessments, providing feedback, storing results, pricing, and assessment security?
- How quickly do they inform candidates whether they have passed or failed?

To obtain this information, search the Internet, talk to the leaders of these programs, visit assessment centers, participate in briefings, go through sample assessment processes. Coordinate your efforts with the NSSB, which will also be conducting similar benchmarking research to share with all the Voluntary Partnerships.

As you investigate, ask yourself questions that will help you translate what you are learning into a vision of how your own assessment system will work. These include such questions as:

- What mix of products and services will best meet the needs of your customers?
- What parts of existing programs do you want to emulate? What do you want to avoid?
- What opportunities do you see for collaboration and partnerships?* How can you link your efforts to existing public and private education and training and employment systems that currently prepare people for work (e.g., government job centers, apprenticeship programs, community colleges, high schools, and vocational schools)?
- Given what you have learned from other programs, what are some of the key issues you need to address regarding the cost, accessibility, and marketing of your assessment and certification system?

Whenever possible, the NSSB encourages you to avoid reinventing the wheel. Learn from what's working. Keep in mind that your investigation is just as likely to give you information about approaches you will want to avoid as those you will want to emulate.

Tips for Success

1. Start with a NSSB training session designed to give your Voluntary Partnership information on cutting-edge assessment options, legal issues, and models for assessment and certification systems.
2. Look more broadly than at "assessment for certification" per se. Investigate how employers, trainers, unions, and individuals evaluate competence and communicate it to others—even if certification is not a part of the process. For example, you might examine applicant screening processes, performance review systems, training provider entrance and exit assessments, and other aspects. These programs may offer interesting insights.
3. Look for market leaders—where all stakeholders are being served—and learn from them.

Questions for You

- What's the best way to find out more about the assessment and certification market within your industry sector?
- What else would you like to find out about the way other products and services are designed and delivered?

Investigate—Marketing

You will be introducing a new product to the market. Most employers and potential assessment candidates have worked for years without the benefit of assessment and certification. You can expect many questions from customers:

- Workers may say . . . "I have always just thrown together a resume or filled out an application to get a job. Why should I bother going through the time and expense of assessment and certification?"
- Employers may say . . . "I trust my instinct when I hire folks. Why do I need your help?"
- Trainers may say . . . "I know what people need. Am I really going to find out more from your assessment system?"

The importance of marketing this new system—educating people about how it will work and highlighting its benefits—is critical. What do you think is the best way to reach different customers? How are other organizations marketing their programs? How do they help people access information about their program? Do they reach customers through other programs? For example, do they work with community colleges? How can you draw on lessons learned from your Voluntary Partnership's marketing committee and work with them and your assessment vendor to answer these questions? Investigate.

Investigate—Delivery Channels

What channels will you use to deliver your assessment and certification products and services? There are many options, including:

- Independent assessment centers run by your Voluntary Partnership;
- Existing public job centers; and
- Licensing of the assessment and certification process to third parties. In such a situation, your Voluntary Partnership would develop the assessment tools, but others (community colleges, employers, unions, specialty standards providers, and others) would administer and possibly score them. Your Voluntary Partnership would still award the certificates and

would oversee licensees to ensure quality. This may be more suitable as a long-term option, once your Voluntary Partnership gains more direct experience and fine-tunes processes. Also, it will be important to consider any potential conflicts of interest that may arise as a result of such arrangements.

How do other certification programs address this issue? What do they see as the benefits and drawbacks? Investigate.

Investigate—Financing

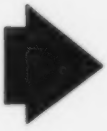
Developing and maintaining an assessment and certification system, particularly one as large as the one you will be developing, can be very costly. How do other certification systems pay for themselves? How do they save money? Do they tend to get back their costs through fees charged to assessment candidates? Or do they find other revenue sources? When you speak to employers, be sure to find out how much they would be willing to contribute to the development and ongoing maintenance of the system. What would they want in return? Can you think of any innovative ideas for how to finance the system? Investigate.

Investigate—Operations and Maintenance

A lot goes into operating and maintaining an assessment and certification system. Some important issues to consider include:

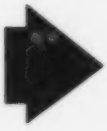
- Database management—Records of assessment scores and certificates will need to be stored electronically in a national database. This database will need to link to the NSSB national database.
- Recruitment and training of assessment administrators.
- Continuous updating of assessments for security reasons.
- Establishment of policies ranging from how to respond to complaints and legal challenges to how to handle ambiguities in scoring.

A lot of these issues will need to be addressed by your assessment team in Step Four, but keep track of what's working and what's not in order to share with your assessment team and to help you evaluate your options. Investigate.



Investigate—Partnerships

Developing strategic partnerships with specialty skill standards developers, educators, and trainers is an important part of building a successful assessment and certification system. Which committees and individuals within your Voluntary Partnership are most suited to do this work? How will your assessment team work with them to get this done? How can the NSSB and other Voluntary Partnerships help you leverage resources? Investigate.



Investigate—Civil Rights Issues

Creating a system that ensures equality, fairness, and access for all Americans needs to be one of your top priorities. When looking at other programs, find out how they have successfully addressed these issues.

It will be important for your Voluntary Partnership to communicate to employers that they are legally required to conduct an internal validation of the standards and related assessments before using them to make hiring and promotion decisions. Many employers will already be familiar with this process, as they often carry it out when they use other new standards or assessments. The purpose of the internal validation is to ensure that the knowledge, skills, and performance described by the standards are required for the job.

The NSSB will be developing tools to help employers in your industry sector quickly and cost-effectively validate the standards. Please note that even those employers who cannot validate that all the skill standards are necessary for work in their organization may still be able to use part of the *Core Plus Certificates*, particularly if your Voluntary Partnership has developed assessments in modules. With a modular system, your Voluntary Partnership could award assessment candidates credit for achieving different modules, which employers can then use as a factor in making hiring decisions once the necessary validation has been conducted.

Envision

Creating a vision of how you want your assessment and certification system to work

You have a strong sense of your customers, their needs, and the market. Now it's time to start to envision how you want your assessment and certification system to work. This is your chance to apply what you have learned and think creatively about how to solve key challenges and address important customer needs.

To do this, the NSSB recommends that you:

Set Goals

Consider starting this effort by setting some broad goals for your assessment and certification system—perhaps creating something like a corporate mission statement. What are you trying to achieve? Five years from now, how will you know you have succeeded?

Your goals should reflect the unique needs of your industry sector. They should also reflect the objectives expressed in the National Skill Standards Act. In that legislation, the NSSB and the Voluntary Partnerships were charged with developing a voluntary national system of standards, assessment, and certification that will:

- Provide individuals with portable certificates they can use across an industry sector;
- Raise the level of workforce skills;
- Increase job security for frontline workers;
- Streamline training, education, recruitment, and hiring;

- Increase opportunities for minorities and women;
- Boost the competitiveness and effectiveness of U.S. employers;
- Increase retention rates and reduce turnover; and
- Prepare individuals for the demands of the high-performance workplace.

As you build your vision, you should be able to identify how your plans will help achieve these goals. Remember the process of clearly defining your goals and objectives at the outset will help guide the decisions you make over time.

Develop a Vision

You don't need every detail worked out at this stage. But you do need to start building a vision that will guide the development of your system. Use the following questions to get you started. And pose a few of your own!

Delivery

- How will you deliver your products and services (e.g., at assessment centers, at community colleges, through a licensing agreement)?
- In what key cities or towns do you plan to make the assessment and certification available?
- What degree of access to the system do you want to achieve? For example, available in every city and state? Access over the Internet? Through schools? At company sites? At assessment centers? At night? On the weekends?
- How will different assessment candidates access information about your system?
- How can you ensure access to your system (e.g., geographic access, access for the disabled, access for those of limited means, access for those who do not speak English)?

Marketing

- How will you work with your Voluntary Partnership's marketing committee to promote the system to...

  Students?
  New entrants?
  Incumbent workers?
  Large employers?
  Smaller employers?
  Training organizations?
  Human Resources personnel?
  Specialty standards groups?
  States?

- What kinds of education and communications programs will you need? For example, many employers in your industry sector will know very little about your assessment and certification system, particularly at the beginning. You may need to develop an educational strategy to help human resources personnel and managers interpret certificates.

Think Big

You probably noticed that these questions do not relate to the development of assessment tools (e.g., Should individuals be assessed using a multiple-choice test or a work simulation? What kind of diagnostic feedback should be provided? Should you use video technology?).

These are important questions, but first it's important that you consider some big picture issues. Many of these larger issues—from your budget constraints to the ways in which you deliver the system—will influence the types of assessment tools you develop. In addition, development of the assessment tools will require the assistance of your vendor, the focus of Step 4.

Partnerships

- What partnerships do you need to create in order to ensure success?
- How can you link your system to education and training?
- How will you link your system with specialty skill standards developers?

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Finance

- How will you finance the development and ongoing maintenance of your assessment and certification system?
- What is the maximum per-candidate fee you will charge?
- What is the maximum you can spend on developing and maintaining the system? This depends greatly on the financing available to your industry sector. As you consider this issue, it's important to identify the available support within your sector for various aspects of research as well as how much employers and educators are willing to pay for the development and operation of the system.

Tips for Success

1. Make sure your vision meets the needs of your market and the NSSB criteria. For example, does your vision:

   ☑ Reflect the needs of your customers (e.g., large employers versus smaller ones, subindustry groups, students, new entrants, and seasoned workers)?

   ☑ Address issues of equity and access?

   ☑ Comply with civil rights and employment law?

   ☑ Ensure portability of certification across your industry sector?

   ☑ Reflect the need to be practical and to create a system that is affordable?

2. Develop hypothetical case examples, similar to those offered in the last chapter of *Credentials for Success*, to help you develop and communicate your vision. These examples, particularly if you base them on the circumstances and the needs of real customers, will help you think through some the details that are so critical to the

success of your system. The case examples may also help you communicate your plans to others, including employers, assessment candidates, and the press.

3. Be realistic. Know your constraints (e.g., a limited budget, a maximum per-candidate-fee). As you develop your vision, you need to make the necessary tradeoffs in order to create a practical, efficient, and cost-effective system. For example, your Voluntary Partnership may want to deliver certain services over the Internet, but the up-front costs may be too high for you to do so immediately.

Questions for You

- Who do you need to involve in this process? From whom do you need to get buy-in?
- What will you need to do to start turning these ideas into reality? Who will be in charge of carrying out each step?
- Does your vision meet the goals you outlined at the start of this process?

Plan and Retain

Retaining expert assistance to plan, develop, administer, and maintain the system

Once you have a clear idea of what you want your system to achieve, you are ready to begin working with a vendor or vendors to develop the system (e.g., the actual assessments, delivery channels, a database for storing results).

Developing assessments that truly measure what someone knows and can do is difficult. To ensure the quality of your assessments and their technical and legal validity, we recommend that you work with leading experts during this phase of the work.

This last point—the need to meet technical and legal standards—cannot be stressed enough. The assessments you develop will be used to make high-stakes decisions about hiring and placement. That's a huge responsibility, with major implications for the careers of individuals and the competitiveness of U.S. companies. It also means that your Voluntary Partnership could face legal challenges.

The best way to ensure the quality of your assessment system is to work with assessment experts and people who have experience in employment and civil rights law—a key requirement of the NSSB. In this chapter, we provide you with information designed to help you retain and begin working with vendors to develop your system.

Keep in mind that you will not be alone. The NSSB plans to work in partnership with you and your vendor to help develop the system. The NSSB Endorsement Review Panel (ERP) will also be working with you and your vendor, reviewing key plans and products at critical stages of your work in order to ensure they comply with NSSB criteria.

This chapter focuses on how to retain the help of a vendor. To retain a vendor, the NSSB recommends that you:

Gain an Understanding of the Assessment Development Process

Your Voluntary Partnership does not need to become expert in every aspect of assessment, but you do need to understand the key activities involved in the process. Without an understanding of these activities, it will be virtually impossible to develop a meaningful request for proposals (RFP), select a qualified vendor, manage that vendor, or make valuable contributions along the way.

The following section describes the key steps involved in the development of an assessment and certification system once you have hired your vendor. Your goal at this early stage is not to carry out these activities—that's the job of the vendor you hire. Instead, spend some time gaining a general understanding of what's involved so that you can prepare your RFP. The NSSB will be providing more in-depth guidance for many of these issues when you and your vendor begin developing the actual system.

Please note: The following section—An Overview of the Process—provides information you can use in your RFP to explain what will be required of vendors. It is similar to the information provided in the Introduction of this publication but goes into greater depth.

An Overview of the Process

- **Activity One: Gain an in-depth understanding of the skill standards as well as the project goals, constraints, and parameters.** Your vendor will need to learn about:

  1. *The goals of the national system.* What is the NSSB? What are the goals of the national system? How is the system organized (e.g., core, concentration, specialty, information on industry sectors)? How does the NSSB endorsement process work? What are the NSSB criteria? We recommend you set up briefing sessions among NSSB staff, your Voluntary Partnership,

and your vendor so that your vendor can ask questions directly and learn firsthand about the project.

2. *Your vision of assessment and certification.* What are your Voluntary Partnership's goals, parameters, and constraints (i.e., the vision you identified in Step Three of this publication)? Your Voluntary Partnership needs to provide the vendor with information about any decisions that will affect the development of the assessment tools, such as:

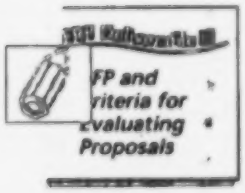
   - Product plans;
   - Budget constraints;
   - The size, geographic dispersion, and demographic diversity of the candidate population;
   - Available support within the sector for various aspects of research and ongoing assessment (e.g., One of the key steps later in the process is the pilot testing of assessment tools. The vendor will need to know if you can help them access workers and other assessment candidates in order to conduct these pilots.);
   - Objectives with regard to access to the system and linguistic diversity;
   - The maximum fee permissible for assessment candidates;
   - A profile of your customers, including detailed information on assessment candidates, and anything you learned about the market (i.e., the results of the investigations you carry out as described in Step Two of this publication); and
   - Who will be developing the implementation plan and carrying out assessment administration?

3. *Your Voluntary Partnership's skill standards.* The following review materials should be available to your vendor:

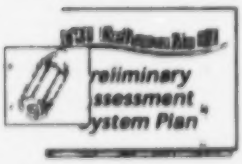
   - The academic, employability, and occupational and technical knowledge and skills and complexity levels;

- The list of critical work functions, key activities, and performance indicators and their associated academic, employability, and occupational and technical knowledge and skills;
- Any underlying data, including results of the national standards survey; and
- Information on the concentrations and the core skill standards.

Questions your vendor will want to consider include: How much variability exists across the concentrations and what are the implications for assessment? (i.e., Do the knowledge and skill levels required differ widely across concentrations? Do they differ widely across critical work functions within a concentration? Can one assessment be used to cover more than one concentration?)



Activity One: This activity will be covered later in the book.



Activity Two: Develop a Preliminary Assessment System Plan. This is the first step in developing assessments and involves the important and challenging task of determining which aspects of the skill standards will be assessed and the best methods for assessing them. Your *Preliminary Assessment System Plan* should provide information on the estimated importance assigned to each aspect of the standards, the proportion of the assessments that will be dedicated to each component of the skill standards, and an estimate of scoring and examination time. It should also provide a vision of how the various aspects of the plan will lead to certification, how the system will be delivered, what system components are needed, etc. Your *Preliminary Assessment*

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System Plan, Deliverable #2, must be submitted to the ERP for review prior to ultimate NSSB approval.

This plan is the first of several plans your vendor will need to develop on the way to building the assessment system. Two of the most challenging technical tasks involved in developing the plan will be determining:

- The content that needs to be measured; and
- The methods that will be used to measure this content.

Let's look at each of these tasks for a moment, keeping in mind that the NSSB will be providing more detailed guidance to each Voluntary Partnership and its vendor.

1. *Determine the Content to Be Measured.* The sheer volume of information contained in the standards could make the time and money it would take to measure every aspect prohibitive and impractical. Although it may be possible to develop assessment tools that measure all of the requirements of core and concentration skill standards, your vendor will likely need to prioritize which aspects of the core and concentration skill standards to assess as part of the assessment process.

   When making these choices, your vendor will need to consider budget, relative importance of particular aspects of the standards, and measurement feasibility. The most important content issue your vendor will need to consider is how to ensure the content validity of the assessment and certification process. By content validity, we mean the degree to which the assessment and certification system you develop reflects the content of the skill standards. Determining the content to be measured will include such steps[7] as:

   - Analyzing the skill standards for core and each concentration to determine where overlap exists.

[7] These major steps are described in general terms, and it should be noted that ensuring content validity is a difficult process that requires a high degree of assessment expertise and experience.

- Prioritizing the importance of the standards for core and concentration. This can be done in a variety of ways. For example, if your Voluntary Partnership conducted a national survey in which respondents rated the importance of different aspects of the standards to their jobs, those findings could be one of several sources of information your vendor could use to make these determinations.
- Determining what to measure based on threats to validity, importance of a particular aspect of the standards, measurement feasibility, cost, and others.

Keep in mind that the assessments must capture the full richness of the skill standards. After all, skill standards are made up of a considerable amount of information, including the work-oriented component (e.g., the critical work functions, key activities, and performance indicators) and the worker-oriented component (e.g., the academic, employability, and occupational and technical knowledge and skills needed to carry out the critical work functions).

If assessments measure only knowledge and skills divorced from the context of work described by the critical work functions, they will have limited value. The assessments may tell us whether individuals are good at mathematics or have strong listening skills, but they will not necessarily tell us whether those individuals can use those skills in the context of work.

That's why assessments developed based on skill standards should measure the knowledge and skills in the context of the critical work functions, key activities, and performance indicators whenever possible. For example, instead of measuring an individual's writing skills or speaking skills, the assessments should measure whether someone can use those skills to identify a customer need (e.g., identifying customer needs is the focus of one of the manufacturing critical work functions).

Another major challenge in identifying the content to be measured will be to do so in a way that factors in modularity. By modularity, we mean the development of assessments around clusters of related skill standards. For example, to obtain a *Core Plus Certificate*, individuals may need to be assessed in standards covered by eight different critical work functions. In a modular system, one assessment module might focus on one critical work function, along with its associated key activities, performance indicators, and knowledge and skills, while another module might focus on another critical work function.

Modularity gives the Voluntary Partnerships flexibility in the kinds of products and services they can create. For example, individuals can work toward certification over time, completing modules along the way to earning a *Core Plus Certificate*.

Modularity also means that instead of requiring individuals to retake the entire assessment, Voluntary Partnerships will be able to allow candidates to apply passing results in certain modules to future efforts. This will require fairly detailed record keeping but could serve as an incentive for some individuals to continue working toward certification, saving candidates time and money. Some Voluntary Partnerships may wish to take this one step further by offering a record of achievement so that individuals can demonstrate to employers their success in different aspects of the assessment.

Modularity will also help the Voluntary Partnerships provide more detailed feedback (e.g., feedback on how an individual performed on a given module).

Equally important, modularity will help promote portability across different industry sectors (i.e., When assessments are modular, it's easier to see the similarities across industry sectors. If there are similarities, it may be possible for individuals to use certification or a part of their certification earned in one industry sector to demonstrate qual-

ifications in another industry sector). In addition, the greater degree of modularity in assessments, the easier it will be for candidates to transfer credits earned for one concentration to another (i.e., It's possible that there will be overlap between the standards required for one concentration and those required for another. In that case, the more modularity there is in the system, the easier it will be for individuals to apply credits from one assessment to another).

2. *Identify the Assessment Methods to Be Used.* Assessment methods can range from paper-and-pencil multiple-choice assessments to work simulations to observations of an individual's on-the-job performance. There is no one best method.

   NSSB criteria encourage the use of innovative methods of assessment and assessment delivery as long as the methods are consistent with all other NSSB criteria.

   Innovative assessment methods include live performance simulations. These types of assessments, which measure an individual's knowledge and skills based on how they perform a simulated work task, are often useful for measuring social or interpersonal skills, such as listening, speaking, working in teams, building consensus, and using social skills (which fall under the category of employability skills within the NSSB framework).

   For example, an assessment might involve a simulation of a customer calling about a complaint. The examinee completes a form using information gained from the caller. To complete the form, the examinee might access a computer file to obtain certain codes, use some basic arithmetic calculations, and write a short narrative description of the problem. Following completion of the form, an examiner might ask the examinee a series of structured questions designed to assess his or her understanding of the problem. Key considerations in this type of simulation are the need to provide a standardized stimulus (i.e., the customer problem) and a standardized scoring system.

Other performance simulations might involve such assignments as assembling a hypothetical machine or product based on a set of written instructions; writing a report based on a set of documents; or taking action on a series of problems appearing in a hypothetical in-basket (these could be delivered via e-mail). The creative use of video and computer technology provides for the development, delivery, and scoring of a much wider array of simulations than was previously available.

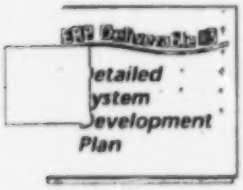
Voluntary Partnerships may also wish to use a "situational judgment inventory." This is a method of assessment in which examinees are asked to consider various hypothetical work situations. The examinee is provided with a series of alternative actions that he or she might recommend. This method may be more practical, but it is a less realistic way of assessing many interpersonal and problem-solving skills.

Another type of innovative assessment, albeit more expensive and more cumbersome to administer to large groups of people, might involve live role-plays designed to assess interpersonal or social skills. Such an assessment might include a group exercise in which an individual's skills at building consensus are evaluated, or a situation in which an individual's ability to close a real estate sale is evaluated. This stage of assessment might also include a videotape of the performance of some sample of the examinee's work, which is then rated by a group of trained experts using standardized rating criteria and instruments.

The choice of assessment methods will depend a great deal on the specific aspects of the standards being measured, how well those assessments measure performance, as well as practical considerations of time and expense. The most important goal in choosing assessment methods should not be whether they are innovative or not, but whether the method selected is the best method for measuring the content.

The plan should include not only a list of the content to be measured and the assessment methods used, but also infor-

mation on how these decisions were made and the overall vision of how these plans will contribute to certification.



Activity Three: Create a Detailed System Development Plan. This plan consists of two parts:

Assessment tool development—This should be a blueprint for creating the assessment tools, describing exactly how each aspect of the skill standards will be measured, the types of questions candidates will be asked, the types of tasks they will be requested to perform, scoring methods, and how all of this will lead to certification. It should also include a linkage study, showing how what's being measured and the way in which it is being measured accurately reflects the content of the skill standards. This plan should build on your *Preliminary Assessment System Plan*, providing far greater depth.

The plan should include the requirements for the cooperation of subject matter experts (e.g., for exercise writing), any plans for alternative modes of assessments (e.g., video, web-based), the need for parallel forms[8], and strategies for addressing Americans with Disabilities Act (ADA) and Rehabilitation Act issues.

System component development—This involves developing a plan for creating all the supporting policies, tools and infrastructure needed for the system, including:

1. A plan to deliver the assessment tools (e.g., delivery channels, sites, and use of existing facilities, including partnership arrangements).

2. A plan to ensure secure, "hacker-proof" delivery, storage, and reporting systems. This is vitally important and will

[8] Parallel forms refer to the creation of similar assessment items to measure the same knowledge or skill. Parallel forms are a useful way to maintain assessment security and to allow for reassessment. For example, your Voluntary Partnership might develop a multiple choice test assessing an individual's knowledge of percentages. Instead of developing one version of the question assessing someone's skill in figuring out percentages, you would develop several versions of the question, which you could use to continually update the test. The development of parallel forms can be expensive.

have a significant impact on the type of assessments developed, the number of assessments, etc.

3. A method for monitoring how different groups are performing (e.g., mean scores and standard deviations across different concentrations, performance of various protected groups, basic psychometric indices).

4. A method to provide assessment candidates with feedback. This is critical to helping individuals use assessment results as a tool for career development. Keep in mind that assessment feedback must be provided to both those who pass the assessment and those who do not. The feedback should include information about the areas where the candidate did well and where further development is likely required.

   Issues your vendor will need to consider are what format that feedback should take (e.g., computerized, in-person, over the phone, or some combination), how quickly individuals should be able to get results (your Voluntary Partnership should provide feedback and scoring mechanisms which offer candidate feedback as quickly as possible), and just how much information should be included in the feedback. NSSB criteria require that you only provide feedback that would not compromise assessment security.

   In addition to providing individuals with feedback, your Voluntary Partnerships may wish to provide information on local training, education, and apprenticeship programs that might help an individual improve his or her performance. This information could be linked to the individual's specific assessment results, highlighting courses and programs that address an individual's need for development.

   For example, in each industry sector, the Voluntary Partnerships could develop a voluntary database of education and training providers who offer programs that help individuals prepare for assessment and certification.

Once the databank is mature, it could offer guidance on provider performance to individuals, employment centers, and companies. This database would be linked with the NSSB national database, which will provide this information across sectors.

5. A plan for developing a database for storing and retrieving assessment results. Comprehensive records will need to be kept so that appropriate individuals and employers can access assessment results. The database will need to store information over a long period of time, and include a way to notify candidates of the need to renew their certification. In addition, it must be linked to the national database developed by the NSSB.

6. The plan should include information about the pre-assessment materials and/or services your Voluntary Partnership plans to provide in order to help potential candidates learn more about the assessment process and determine whether they are ready to be assessed. This includes information and services that will:

   Explain the options and answer basic questions:

   - What types of certificates are available? (For example, in each industry sector, Voluntary Partnerships will be offering assessments in up to six different concentrations.)
   - What kinds of jobs do they cover?
   - What are the benefits? Can candidates use certificates to get jobs? Advance in their careers? Select the right training and development?
   - How long will the assessment process take and how much will it cost?
   - How can candidates register?
   - How will results be stored and individual privacy be protected?

- How will assessments be scored?
- Can candidates work toward certification over time?

Introduce candidates to the system.

For many candidates, this will be their first introduction to the voluntary national system of skill standards, assessment, and certification. Candidates will want to know how the assessments were developed and who is behind the system. It will be important for Voluntary Partnerships to provide this information and highlight some of the unique aspects of the system (e.g., that skill standards were developed by frontline workers and supervisors as part of an unprecedented nationwide research effort).

Help individuals determine whether they are ready for assessment.

Assessment and certification is a potentially expensive and time-consuming process. To help candidates determine whether they are ready to be assessed, Voluntary Partnerships may wish to offer cost-free, self-scored sample assessments. Individuals could use these sample assessments to help determine whether they are ready and to learn more about the assessment process so that they can prepare for it.

Although sample assessment questions may help individuals determine whether they are ready to be assessed, Voluntary Partnerships should make clear that success on the sample assessment is not a guarantee of success on the full assessment. Also, it is important to point out that there is value in being assessed, even if someone does not pass, because candidates will receive detailed feedback on their skills, which they can use to select training and education and improve their performance.

In providing information that will help individuals determine whether they are ready to be assessed, it is important that Voluntary Partnerships do not favor one form of preparation over another (e.g., Voluntary Partnerships should not suggest that someone with formal training or education would be more likely to pass an assessment than someone with on-the-job experience).

The pre-assessment and certification services should be accessible to as many users as possible. Individuals should be able to obtain information via all or most of the following ways: Internet, mail, in person at employment centers, over the telephone, at the workplace, at community colleges, high schools, etc. For example, if Voluntary Partnerships offer self-scoring sample assessments to help candidates learn more about the process and determine whether they are ready to be assessed, it might be possible to make these assessments available over the Internet. However, for the greatest accessibility, they should also be available in hard copy.

7. Information on the equipment needed (e.g., computers, video equipment, access to the Web, paper versions) and the facilities, if any, that will be required for assessment administration.

8. A plan for scoring methods, including methods for setting cut scores (i.e., passing scores or other criteria for determining whether someone should be certified) and determining how the results of multiple assessments will be combined or integrated into overall scores or certification decisions.

9. A plan for assessment administration, including:

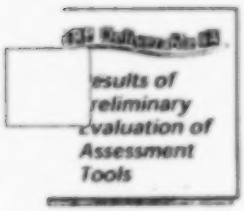
   - Recruitment of assessment administrators. These individuals will administer and help score the assessments. Your vendor will need to develop plans for hiring, training, certifying, and monitoring their performance.

   - Continual updating of assessments for security purposes (e.g., in case the assessments get into the wrong hands).

- Establishment of policies regarding issues such as how quickly examinees can retake assessments and whether they can apply passing results to future efforts (this relates to whether your Voluntary Partnership offers credentials in addition to certification).
- Plans to ensure access including compliance with the Americans with Disabilities Act (ADA) or Rehabilitation Act rules. Access can be ensured by offering assessments in the evening and on weekends, making it easy for people to sign up (e.g., phone, e-mail, or in person), ensuring assessments are near public transportation and child care, and other access requirements.
- Policies on issues such as time limits, access to resources (e.g., calculators, dictionaries, conversation with other examinees), when to pay, how to respond to questions from examinees, and test security.

10. A plan for system administration, including:
    - Recruitment of system administrators. These individuals will maintain the infrastructure, databases, etc. Your vendor will need to develop plans for hiring and monitoring their performance.
    - Continual updating of assessment system infrastructure (new computer equipment, software, etc.).
11. Plans for continually improving and documenting the results of your assessment process. (This is important for maintaining NSSB endorsement.)

Please Note: Your plan should address how your Voluntary Partnership's tools and components will be integrated into the national system. Also, in all these efforts, you should incorporate the NSSB goal of building a voluntary national system of assessment and certification that increases opportunities for minorities and women. When Deliverable #3 is complete, it must be submitted to the ERP for review prior to ultimate NSSB approval.

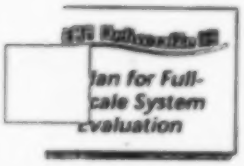


Activity Four: Develop the assessment tools and conduct a preliminary evaluation. In this step, your vendor will develop the assessment tools, including scoring keys and rating scales for each tool. This stage also includes the development of algorithms for combining assessments from the different tools into an overall score.

Another important part of this step is a preliminary evaluation of the assessment tools. You and your vendor will conduct pilots to gather preliminary data about reactions to the tools and psychometric characteristics of the tools.

In addition to examining the psychometric characteristics of the assessments, the pilot should evaluate the time required to take the assessments, the time required to score them, and the effectiveness of diagnostic feedback. In this way, the pilot will provide an opportunity to address any practical problems with the assessment (e.g., wording, clarity of directions).

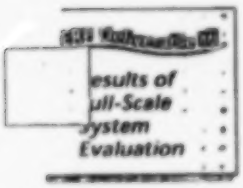
Piloting of the assessment is a vital step in the process. It provides key information needed to evaluate, improve, and refine the assessment tools. Key issues that will need to be addressed at this stage are: Who will need to be involved? How many people? How can the pilot evaluate for potential adverse impacts on protected groups? When you have completed Deliverable #4, it must be submitted to the ERP for review prior to ultimate NSSB approval.



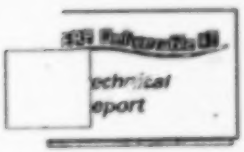
Activity Five: Develop a plan for full-scale evaluation of the entire system. This plan should describe in detail how you intend to evaluate all parts of the assessment system *before* it's operational. This includes delivery channels, database for storing and communicating results, candidate reactions; participating employer organization reactions; scoring strategies; impact of assessments on protected groups; psychometric characteristics of the assessment tools; readability analyses; linkage of assessment tools

with skill standards; effectiveness of security measures and training programs; accessibility of system to users, etc.

The evaluation should also look at the pre-assessment services (depending on what your Voluntary Partnership decides to provide), the storing and communication of results, and anything else that ensures a thorough evaluation. This pilot should be as comprehensive as possible at this time. Deliverable #5 must be submitted to the ERP for review prior to ultimate NSSB approval.



Activity Six: Conduct a full-scale evaluation of the assessment system and make changes as required. At this stage, your vendor will need to conduct a full-scale evaluation of the assessment system, including an evaluation of the assessment tools and system components. This evaluation should measure the effectiveness of all aspects of the system (e.g., psychometric characteristics of assessment tools, comparison of mean scores for groups of interest for all concentrations, scoring, delivery channels, storage and communication of results, security of delivery system and databases). Based on findings, your assessment system will likely require modification. Deliverable #6 must be submitted to the ERP for review prior to ultimate NSSB approval.



Activity Seven: Prepare a Technical Report documenting the content validity and effectiveness of the assessment system. This report should describe in detail the activities undertaken to develop and evaluate the assessment system. This report should be sufficiently detailed to allow an expert to evaluate the quality of the system. This report should cover four major areas:

- The general method(s) of gathering and documenting evidence of validity (i.e., in terms of content, criterion-related, and/or construct validity).

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- The specific steps and procedures by which such evidence was assembled and evaluated.
- A description of the data and analyses undertaken.
- The results of the analyses and their interpretation.

The technical report should include:

- Background on how the assessments are linked directly to the skill standards and how this linkage was determined;
- Information on how items or procedures were written or developed, including the number, demographic characteristics, and qualifications of the item writers;
- A description of the pilot program and the pilot sample;
- Estimates of the reliability and validity of the procedure(s);
- Results of any item analyses conducted;
- Results of subgroup analyses conducted;
- Results of any linkage reviews;
- A complete set of instructions and any required administrator or scoring instructions required for implementation of the assessments;
- Descriptions of the way in which proficiency levels were established and how feedback is provided to examinees;
- Description of how cut (passing) scores were set;
- Results of all evaluation activities; and
- Plans for ongoing validation, quality control of assessments, and production of new items or forms of assessments and simulations as skill standards change.

The report should conform to principles set out in the following documents:

- U.S. Equal Employment Opportunity Commission, Civil Service Commission, Department of Labor, and Department of Justice. (1978). Uniform guidelines on employee selection procedures. *Federal Register,* 43:38290-38315.
- Society of Industrial and Organizational Psychology, Inc. (1987). *Principles for the validation and use of personnel selection procedures* (3rd ed.). College Park MD: Society of Industrial and Organizational Psychology.
- American Educational Research Association, American Psychological Association, and National Council on Measurement in Education. (1999). *Standards for educational and psychological testing.* Washington DC: American Educational Research Association.

The Technical Report, Deliverable #7, should include the final assessment tools and components, training materials, and all other final products generated. When complete, it must be submitted to the ERP for review prior to ultimate NSSB approval.

Once your vendor has documented the developmental activities and validity of the assessments, your Voluntary Partnership is ready to implement its assessment and certification system.

Please Note: Throughout the assessment devlopment process described above, your Voluntary Partnership should be working to develop a rollout plan and marketing plan, and making refinements to your business plan. This includes answering such questions as: How, when, and where will you launch the system? Will you start with six assessment centers in the first year and grow to a dozen in the next? Where is the greatest need for assessment in your industry sector? How will that affect your rollout plan? To whom will you market first? How will you ensure the rollout plan helps you achieve the important goal of increasing opportunities for minorities and women? How will you measure success?

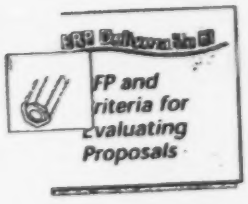
In all these activities, the NSSB will be providing support and advice to help guide you and your vendor to success.

Develop an RFP

Now that you understand more of what's involved in developing an assessment and certification system, it's time to develop an RFP. The purpose of the RFP is to help you find the best vendor or group of vendors to develop your assessment and certification system. The RFP is a critically important document. The better your RFP—the more detailed information and background it provides—the better the quality of ideas, methods, and strategies bidders will propose.

One of the first steps in developing your RFP will be to describe the scope of the work. In other words, what exactly do you want the vendor to do? This is an important question, as there are many ways to go about working with vendors. You may wish to find one vendor who can oversee the work of other vendors. You may decide to work with one vendor capable of performing all the activities involved in developing and implementing your system. Or you may decide it's best to request proposals from different vendors for different aspects of the work. For example, you may work with one vendor to develop the assessments and another to help you develop a national database for storing and communicating results. If you do pursue this approach, it's vitally important to coordinate the work of the different vendors (you may wish to hire a vendor responsible for coordinating the different efforts). Another option to consider is using one set of vendors to develop the system and many different vendors to help you administer the assessments once the system is operational.

The following advice for developing an RFP is fairly generic and is geared to the initial development of the system. The NSSB can help your Voluntary Partnership modify it, depending on your overall vendor strategy.



Before issuing your RFP, please note that you are required to submit both your RFP and your criteria for evaluating proposals to the NSSB Endorsement Review Panel for review prior to ultimate NSSB approval.

Your RFP should have five major elements:

1. Background and general instructions;
2. Request for a technical proposal;
3. Request for a staffing plan and timeline;

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4. Request for a detailed cost proposal; and

5. Request for a qualifications statement and references.

Let's look at each of these elements.

1. Background and General Instructions

It is critical to provide potential bidders with the necessary background and instructions for responding to the RFP, including:

- **The goals of the system.** This section should describe your Voluntary Partnership's broad goals for assessment and certification; a description of the NSSB's vision of the voluntary system of skill standards, assessment, and certification; and the NSSB criteria.

- **General background on skill standards.** In many respects, this project is breaking new ground with the development of skill standards. Although bidders may be familiar with skill standards, it is likely that at least some bidders will not be familiar with the kinds of skill standards being developed as part of the NSSB system. That is why it is important to provide detailed information about the skill standards, including background on the work-oriented and worker-oriented components of the standards, how they are linked, and how they were developed. It is also important to explain the organization of skill standards around the core, concentration, and specialty areas and the implications of that for assessment. The NSSB has developed a series of publications providing background on the skill standards that would be useful to enclose in the RFP including: *Built to Work: A Common Framework for Skill Standards* and the *Skill Scales Companion Guide.* Check with the NSSB to get the most up-to-date publications.

- **Sample Skill Standards.** A complete set of skill standards, as well as any information you have on the core skill standards vs. the concentration skill standards, should be provided with the RFP so that the vendor can understand the full scope of what needs to be assessed.

- **Background on the assessment system.** *Credentials for Success* as well as this document should be provided to prospective bidders. These documents contain invaluable information about the assessment system (e.g., key components, NSSB criteria).

- **General instructions.** The RFP should include a list of general instructions, such as:

  Requests for alternative approaches. If your Voluntary Partnership wants bidders to specify alternative approaches in any area (e.g., alternative cost proposals, different assessment approaches), state that in the RFP.

  Projected timelines. If your Voluntary Partnership has any timelines in mind, those should be explained. If you want vendors to propose their own timelines, include that request in the RFP.

  General guidelines for the RFP. The RFP should also specify the desired length of the proposal (i.e., number of pages). Remember to include a deadline for bids.

  General bidding policies and procedures. We recommend that you consult with members of your Voluntary Partnership about bidding policies and procedures and explain any of those rules in the RFP.

Built to Work provides an overview of the Common Framework for Skill Standards developed by the National Skill Standards Board (NSSB). The guidebook is designed for Voluntary Partnerships, convening groups, and anyone else interested in learning more about how skill standards can increase the skills and productivity of U.S. workers.

Skill Scales Companion Guide includes one of the tools being used to develop NSSB skill standards. It is a companion publication to *Built to Work: A Common Framework for Skill Standards* as well as other National Skill Standards Board (NSSB) publications about skill standards.

2. Request for a Technical Proposal

This is a critical part of your RFP. In it you will provide a full description of all the major activities covered by the RFP, often called a "Statement of Work (SOW)," which will enable the bidder to develop a realistic cost and timeline proposal. It is also where you will request specific technical information and ideas from bidders that will help you evaluate their technical capabilities.

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The technical proposal section of the RFP should start by providing a detailed description of all the major activities covered by the RFP. A good source of information for this is the description of activities provided earlier in this chapter entitled "An Overview of the Assessment Development Process."

You should then request information from the vendor that will give you an idea of how they would approach the work ahead. You may request the bidders to:

- Describe your overall approach to developing assessment and certification based on the skill standards, the goals, and the specifications described in this RFP (this should include both the development of the actual assessments and system components).
- Describe your plan for identifying which aspects of the skill standards should be measured.
- Based on your initial analysis of the skill standards, describe the assessment methods you think would work best to measure the different types of content.
- Describe the specific steps you would take in developing the assessment tools.
- Describe how you would minimize or eliminate mean score differences between protected groups and the white or male groups.
- Describe your strategy for evaluating potential adverse impact on protected groups.
- Describe the kinds of subject matter experts you would require.
- Describe what you think would be the best way to deliver the assessments.
- Describe your strategy for evaluating impact of ADA accommodation requests.
- Describe how you would address assessment security issues.
- Provide a description of the pilot that would be required (who should be tested, how many people, etc.)
- Describe how you would evaluate and ensure reliability and validity of the assessments.

- Describe how you would develop assessments that measure the knowledge and skills in the context of the critical work functions, key activities, and performance indicators.
- Describe your strategy for evaluating and documenting that each assessment is linked to the knowledge or skills it is intended to measure.
- Describe your strategy for developing and providing diagnostic feedback to candidates.
- Describe your strategy for developing accessible, accurate, and secure databases.
- Describe the kinds of training and training materials you would develop and provide to assessment administrators and system administrators.
- Describe your plan for developing delivery channels.

3. Request for a Staffing Plan and Timeline

The RFP should ask bidders to estimate the number of personnel hours that will be devoted to the accomplishment of each task and a timeline for task completion. Along with the hours required, bidders should be asked to indicate the experience and qualifications of the personnel who will be assigned to these tasks. If the Voluntary Partnership is requesting that bidders provide plans for the development of alternative approaches, then staffing plans and timelines for these alternative plans should be developed and the RFP should ask for these staffing plans.

4. Request for a Detailed Cost Proposal

The RFP should ask bidders to include information on the costs associated with each step in the proposed work plan. This cost proposal should be bound separately from the Technical proposal. The cost proposal should include separate cost estimates for alternative approaches (if any) to the basic work plan. It should also include the hourly rates that apply to personnel who will work on various tasks. The RFP should ask for information about overhead rates as well as cost estimates for supplies and travel, communications, and other expenses.

5. Request for a Qualifications Statement

The RFP should ask bidders to provide information about:

- The structure of their organization as well as information on contact persons and the individuals who will have primary responsibility for task completion. Bidders' financial statements and descriptions of previous work on similar projects should be requested.
- Current staff commitments and their technology resources. The RFP should also ask for information about the insurability of the bidders' firms.
- The number of hours and qualifications of the staff that will be assigned responsibility to each component of the work. Previous experience and education relevant to the work required should be detailed.
- References of clients for similar work should be required.

Tips for Success

☑ The advice provided here is not meant to be exhaustive. Voluntary Partnerships should follow the bidding policies and procedures of member companies within the Voluntary Partnership.

☑ Preparing an RFP for assessment and certification—and evaluating responses to the RFP—requires considerable expertise in assessment. We encourage you to work with an assessment expert in developing this RFP.

☑ The following resources may be helpful in identifying potential bidders:

1. **Professional Associations.** Most assessment developers belong to one of the major professional associations in this field. These include:
   - the American Psychological Association, particularly Division 14 (Society for Industrial and Organizational Psychology, or SIOP) and Division 5 (Measurement and Evaluation);

- the American Educational Research Association (AERA);
- the National Council on Measurement in Education (NCME);
- the National Organization for Competency Assurance (NOCA); and
- the National Academy of Sciences.

These associations publish directories listing their members by location and field of expertise (see references).

2. **Assessment Organizations.** Many for-profit and nonprofit organizations have extensive expertise in the design and administration of assessments. Examples of major nonprofits are American College of Testing (ACT) and the Educational Testing Service (ETS). One of the largest for-profits in this field is Sylvan Learning Systems, Inc.

3. **Federal Agencies.** Because the federal government is a huge employer, it has well-developed methods and sources of expertise and information on work analysis and assessment. The Office of Personnel Management employs many individuals with such expertise. In addition, branches of the U.S. military use personnel systems that involve assessment experts.

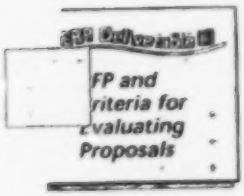
Because skill standards and assessments may impact employment-related decisions, they often face legal challenges. In unionized firms, assessments may be the subject of collective bargaining, grievances, or arbitration. When developing your RFP, you will benefit by consulting with lawyers who have expertise in certification and assessment and in employment law (including civil rights and labor laws).

Review RFP Responses and Select Vendors

Once you receive responses to the RFP, it's time to evaluate them. This involves:

- **Assembling a technical panel of experts to evaluate proposals.** As soon as the RFP is issued, your Voluntary Partnership should begin to

assemble a panel of four to six people to read and evaluate the proposals. This panel will most likely evaluate the technical proposals and qualifications statements. Your Voluntary Partnership will need to balance those evaluations of the technical and qualifications proposals with the cost proposals. As part of this process, your Voluntary Partnership should review the proposals with the NSSB.



■ **Developing a process for evaluating the proposals.** This process should spell out the evaluation criteria and provide rating scales that can be used to summarize evaluations. The manner in which final decisions on each of the proposals are reached should be specified. The time span for review should be specified, and arrangements for a meeting of the technical review panel should be made. If oral proposals from some bidders are desired, plans for these meetings must be determined. Plans for development of legally binding contracts must be established (this will involve securing legal counsel).

Possible evaluation criteria include:

- Will the proposed work achieve project goals?
- To what degree does the proposal reflect an understanding of the standards and the needs of the skill standards system?
- To what degree does the proposal reflect an understanding of the technical and legal issues involved? Are the proposed pilot assessments and analyses sound?
- Are the timelines realistic? Are the time and staffing levels estimated for each task sufficient?
- How practical are the assessment procedures? How practical is the projected cost of assessment per assessment candidate? Does the proposal reflect a reasonable understanding of implementation issues?
- Are the long-term validation, monitoring, improvement, and development plans adequate?
- Does the vendor demonstrate adequate experience and expertise? What type of evaluation did the references provide?

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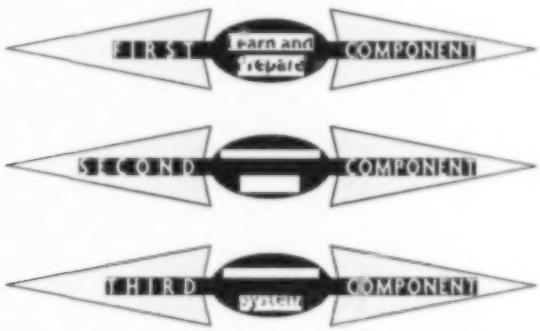
In Conclusion

Once you hire a vendor or vendors and begin developing the system, you will begin working on the Second Component of the overall effort to develop a voluntary standards-based assessment and certification system. The NSSB will be providing ongoing technical assistance to work with you and your vendor to complete the Second Component.



After reading this manual, it should be clear that considerable expertise and effort are required to build a world-class assessment and certification system based on skill standards. The challenges must not be underestimated. But as you begin this work, remember that you start with many important advantages:

- **A link to your customers.** Your Voluntary Partnership already has a relationship with the thousands of employers, employees, and others who will use your assessment and certification system. This link to your customers will help you understand your customers' needs, identify the best markets, and develop the most successful products and services.
- **A wealth of knowledge about assessment.** Although many aspects of the system you are developing will require new ideas, there is a wealth of knowledge on developing assessments from which to draw. We encourage you to work with the NSSB, its Technical Assistance Team, and high-quality outside vendors when you are ready to begin developing products and services, taking full advantage of the considerable expertise that already exists in this area.
- **Skill standards.** With skill standards, you have the opportunity to create a truly unique assessment and certification system. That's because skill standards are specifically designed to meet the needs of the high-performance workplace, promote lifelong learning, and provide individuals with portable skills and certificates they can use throughout their careers. This advantage, above all else, will help set your work apart and ensure your success.

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For NSSB endorsement process-related resources, please refer to the Voluntary Partnership forum on the NSSB web site: www.nssb.org